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METHOD OF SAMPLING OF OPEN TOP SANITARY (OTS) CANS

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METHOD OF SAMPLING OF OPEN TOP SANITARY (OTS) CANS

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Indian Standard

METHOD OF SAMPLING OF OPEN TOP SANITARY (OTS) CANS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 30 October 1981, after the draft finalized by the Metal Containers Sectional Committee had been approved by the Marine, Cargo Movement and Packaging Division Council.

0.2 The sampling and inspecting schemes laid down are based on the statistical quality control system and the guidelines given in IS : 2500 (Part I) - 1973*, and IS : 2500 (Part II)-1965†. The method and scale of sampling are given for ascertaining the quality of a lot of cans for its acceptance with respect to routine tests specified in IS : 9396-1979‡. For general clauses, for example, terminology, lot inspection, sampling procedure and reduced and tightened schemes the relevant clauses of IS : 3259-1966§ are to be referred to.

1. SCOPE

1.1 This standard prescribes the method of sampling and criterion for ascertaining the conformity of a lot of open top sanitary cans for processed foods on the basis of the routine tests specified in IS : 9396-1979‡.

2. CRITERION FOR CONFORMITY

2.1 Visual Examination — Containers shall be drawn at random according to Table 1 and examined for the defects given in Appendix A.

2.1.1 Any container failing in one or more of the visual characteristics shall be considered as defective. If in the first sample the number of defective containers is less than or equal to the corresponding acceptance number, the lot shall be declared as conforming to the requirements of

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*Sampling inspection table : Part I Inspection by attributes and by count of defects (*first revision*).

†Sampling inspection tables : Part II Inspection by variables for percent defective.

‡Specification for round open top sanitary cans for processed foods.

§Methods for sampling of metal containers.

the visual characteristics. If the number of defectives is greater than or equal to the rejection number, the lot shall be deemed as not meeting the requirements for the visual characteristics. If the number of defectives is greater than the acceptance number but less than the rejection number, a second sample of the size equal to that of the first shall be taken to determine the conformity or otherwise of the lot. The number of defectives found in the first and second samples shall be combined and, if the combined number of defectives is less than or equal to the corresponding acceptance number, the lot shall be declared as conforming to the requirements of visual characteristics, otherwise not.

TABLE 1 SCALE OF SAMPLING AND PERMISSIBLE NUMBER OF DEFECTIVES FOR VISUAL CHARACTERISTICS

(*Clause* 2.1)

No. of Items in the Lot	Sample	Sample Size	Cumulative Sample	Visual Characteristics	
				a	*r*
(1)	(2)	(3)	(4)	(5)	(6)
Up to 10 000	1st	80	80	6	10
	2nd	80	160	15	16
10 001 to 35 000	1st	125	125	9	14
	2nd	125	250	22	23
35 001 and above	1st	200	200	11	16
	2nd	200	400	26	27

a = Acceptance number

r = Rejection number

2.2 Air Pressure Test — A sub-sample of cans is to be drawn from the parent sample for the purpose of leakage testing after eliminating obvious grossly defective cans (rogues) as their occurrence will be rare and will not be spread over the run whose quality is being evaluated.

2.2.1 The sample cans shall be tested for leakage by air pressure test. The flattened cans are to be reformed, flanged and seamed on. The seam characteristics shall be ensured to open top standards.

2.2.1.1 *Sampling* — Take a sample of size 20 cans first. Subject cans to air pressure as given in **4.1** of IS : 9396-1979*. If no leakage in 20 pieces is observed, the lot shall be acceptable. If one can shows leakage a second sample of 20 cans are to be taken from the batch. There should be no leakage in the second sample, that is, a maximum of one leaker, out of combined sample size of 40 is allowed for acceptance of the lot.

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*Specification for round open top sanitary cans for processed foods.

APPENDIX A

(*Clause* 2.1)

VISUAL DEFECTS AND THEIR ASSESSMENT ON BODIES AND ENDS

A-1. VISUAL DEFECTS AND THEIR ASSESSMENT ON BODIES

Sl No.	*Defect*	*Assessment*
1.	Open lap	— Lap opening out after flanging without finger pressure
2.	Unsound lap	— Lap opening out after flanging with light finger pressure without distorting the can
3.	Mislocked side seam	— Two side seam hooks not fully or partly engaged
4.	Worm hole	— Continuous channel through the lap to be confirmed by tearing down the lap
5.	Misnotch	— Notch depth exceeding entire flange width
6.	Turned body	— Misplacement of solder application causing wipe area less than 3 mm on either side of side seam
7.	Knocked down flange	— The body flange or end curl failing to engage
8.	Mushroom flange	— Periphery of the flange turned backwards affecting the double seam
9.	Edge cut on flattened bodies	— Beyond 0·8 mm for the extreme ones
10.	Split flange	— do
11.	Out of square	— do
12.	Stencil out on lap or side seam inside	— Out by more than 0·8 mm. However, no allowance need be given on the side seam

Sl No.	*Defect*	*Assessment*
13.	Scratches on lacquered surface	Heavy scratches exposing tin surface or of aggregate dimension beyond 25 × 0·4 mm detected through copper sulphate test
14.	Wipe out	A deficiency of solder within the lap area.
15.	Dirty inside	Dirt which cannot be removed by automatic washing
16.	Scorched lacquer on side seam inside	Burning of lacquer exceeding 40 mm^2 which can be removed by firm finger pressure
17.	Rust	Obvious objectionable rust
18.	Print defects	Extreme shade variation, colour missing, blurred letters, etc

A-2. VISUAL DEFECTS AND THEIR ASSESSMENT ON ENDS

Sl No.	*Defect*	*Assessment*
1.	Gap in lining	Discontinuity which can be easily seen
2.	Clipped curl	Part of the curl exceeding 1 mm in depth missing
3.	Damaged curl	Damage affecting double seam
4.	Pin hole	Hole through which light can be seen
5.	Cracked metal	Metal fracture
6.	Rust or dirt	Obvious rust or dirt on the component
7.	Scratches on lacquered surface	Excessive scratches aggregating 25 × 0·4 mm assessed through copper sulphate test